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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WALTER H. DELASHMIT JR. and JAMES T. JACK JR.

Appeal 2008-003123
Application 10/758,452
Technology Center 2100

Decided:¹ July 15, 2009

Before ALLEN R. MACDONALD, *Vice Chief Administrative Patent Judge*,
JOHN A. JEFFERY, and DEBRA K. STEPHENS, *Administrative Patent
Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1, 2, 4, 7, 10-11, 16-20, 23-46, 52-55, and 58-84. Claims 3, 5-6, 8-9, 12-15, 21-22, 47-51, 56, and 57 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Introduction

According to Appellants, the invention is a system and method directed to modeling an object in software (Spec. 32, Abstract).

Exemplary Claim(s)

Claim 1 is an exemplary claim and is reproduced below:

1. A method for modeling an object in software, comprising:

generating a three-dimensional geometry of the object from a plurality of points obtained from a plurality of images of the object, the images having been acquired from a plurality of perspectives; and

generating a three-dimensional model from the three-dimensional geometry for integration into an object recognition system.

Prior Art

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Mueller US 2003/0071194 A1 Apr. 17, 2003
Appellants' Admitted Prior Art (AAPA).

Rejections

The Examiner rejected claims 74-75 under 35 U.S.C. § 112, second paragraph for lack of antecedent basis; however, the rejection was withdrawn in the Examiner's Answer mailed August 31, 2007 (Ans. 15, § (10), ¶ 79.).

The Examiner rejected claims 1, 2, 4, 7, 10-11, 16-20, 23-46, 52-55, and 58-84 under 35 U.S.C. § 103(a) as being obvious over Mueller and Appellants' Admitted Prior Art (AAPA).²

GROUPING OF CLAIMS

Appellants argue claims 1, 2, 4, 7, 10-11, 16-20, 23-46, 52-55, and 58-84 as a group based on the same arguments regarding the combination of cited references (App. Br. 11, § A. ¶1. – App. Br. 15, § A. ¶4.). We will, therefore, treat claims 2, 4, 7, 10-11, 16-20, 23-46, 52-55, and 58-84 standing or falling with claim 1.

² Claims 3, 5-6, 8-9, 14, 47-51, and 56-57 have been cancelled as noted in the Final Office Action mailed March 9, 2007.

We accept Appellants' grouping of the claims. See 37 C.F.R. § 41.37(c)(1)(vii) ("Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.")

Issue 1

Appellants' Contentions

Appellants argue Mueller is from a non-analogous art and not from the same field of endeavor as the invention (App. Br. 11, VII. ARGUMENT, § A. ¶1.). Specifically, Appellants contend their invention is a technique for generating synthetic 3D models for embedment in an ATR (automatic target recognition system) whereas Mueller teaches a technique for achieving color fidelity in a scanned 2D image of a 3D object (App. Br. 12, ARGUMENT, § A. ¶1.). Further, Appellants argue Mueller is not "reasonably pertinent" as Mueller and Appellants' invention have two very different purposes and "no reason to seek a 3D synthetic modeling technique for a 3D object for embedment in an ATR in a reference on producing correct color in a two-dimensional scanned image" (*id.*).

Examiner's Findings

The Examiner finds Mueller teaches an invention that develops a 3-D model of an object from a plurality of scanned images and AAPA teaches

generating a geometrical model of an object for integration into an ATR system (Ans. 15-16, §(10), ¶ 80.). Additionally, the Examiner finds Appellants were addressing the difficulty of the prior art's requirement to have a vehicle present when developing a 3-D image and finds Mueller teaches developing a 3-D model of an object from a plurality of scanned images (Ans. 17-18, §(10), ¶ 80, Non-analogous art). Therefore, the Examiner finds the two references are analogous art (Ans. 18, §(10), ¶ 80, Non-analogous art). Thus, the Examiner finds it would have been obvious to one of ordinary skill in the art to combine the teachings of Mueller and AAPA as the combination would have provided the ability to automatically and quickly view and classify objects (Ans. 16, §(10), ¶ 80.).

Issue 1: Have Appellants met the burden of showing the Examiner erred in finding Mueller and AAPA are analogous art?

Issue 2

Appellants' Contentions

Appellants argue Mueller teaches away from the present invention and that the references are improperly combined. Specifically, Appellants contend that:

- (1) the invention does not teach generating 3D images for integration into an ATR, but instead generates 3D models for integration into an ATR, from images;

- (2) Mueller et al. does not teach generating 3D models from images, but rather a technique for achieving color fidelity in a scanned, 2D image of a 3D object;
- (3) the alleged AAPA teaches integrating geometries-not images-into an ATR;
- (4) the alleged AAPA teaches nothing about images (App. Br. 14, VII. ARGUMENT, § A. ¶1.).

Appellants further argue the Examiner misunderstands the present invention, relies on teachings taken out of context, and selectively identifies those teachings in hindsight (*id.*).

Examiner's Findings

The Examiner finds Mueller teaches how to overcome not being able to bring an object to be modeled to the modeling equipment - the same problem Appellants are trying to overcome (Ans. 18, §(10), ¶ 80, Teaching Away). Additionally, the Examiner finds the features upon which Appellants relies (i.e., addressing the difficulty of developing synthetic 3D images of vehicles) are not recited in the rejected claim(s) (Ans. 18, §(10), ¶ 80, Teaching Away).

Issue 2: Have Appellants met the burden of showing the Examiner erred in finding Mueller does not teach away from the present invention or its combination with AAPA?

FINDINGS OF FACT (FF)

Appellants' Invention

(1) Appellants' invention is directed toward a method and system for developing synthetic three-dimensional models from imagery (Abstract and Spec. 2, Field of the Invention, ll. 7-9).

Appellants' Admitted Prior Art

(2) General characterizations of automated "object recognition" technology include remotely sensing one or more characteristics of an object and classifying the object by comparing the sensed characteristics to stored profile(s) of the object (Spec. 2, Description of the Related Art, ll. 19-22). Frequently, one of these characteristics is the shape, or geometry of the object (Spec. 2, Description of the Related Art, l. 22).

(3) In a geometry-matching type of approach, a software model of the object may be developed by remotely sensing the geometry of an exemplary object (Spec. 1, Field of the Invention, ll. 7-9; Spec. 2, Description of the Related Art, ll. 27-29).

Mueller's Invention

(4) Mueller is directed to a method and system for creating 3D imagery of an object using calibration means to transfer data to a reference frame and visibility analysis to determine and resolve occlusion (Abstract).

(5) Many methods exist for obtaining the three dimensional location of surface points of an object including a system which uses a laser range finder to scan the object and record the distance between the known three dimensional location of the range finder and the measured location of the surface of the object (p. 1, ¶ [0007]).

(6) One embodiment of a system includes placing an object to be digitized on a rotatable platform (p. 3, ¶ [0049]). An optical detector captures a series of color images taken at a different time and associated with an angular rotation of the object (p. 3, ¶ [0050]). Each snapshot or image of an object taken by the detector is from a different view (*id.*).

(7) The detector which performs data acquisition and storage may be included in a separate and different type of processor than the image processor which produces a three dimensional surface model (p. 3, [0053]). Therefore, a large number of relatively cheap processors for data acquisition and storage may be used to send data to a smaller number of more costly and complex image processors (*id.*).

(8) The detector can move around a stationary object and if the object is very large, can be mounted on, for example, a helicopter and flown around the object (p. 4, [0056]).

PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

References within the statutory terms of 35 U.S.C. § 103 qualify as prior art for an obviousness determination only when analogous to the claimed invention. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *see also In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979) and *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004).

On the issue of whether a reference teaches away the court in *In re Gurley* 27 F.3d 551, 553 (Fed. Cir. 1994) stated:

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The

degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.

Gurley, 27 F.3d at 553.

The Supreme Court has rejected the rigid application of the "teaching suggestion or motivation" (TSM) test, instead favoring an "expansive and flexible approach." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007). Based on its precedent, the Court reaffirmed the principle that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416. In determining whether there is a reason to combine, it is not necessary to find precise teachings in the prior art directed to the specific subject matter claimed because inferences and creative steps that a person of ordinary skill in the art would employ can be taken into account. *Id.* at 418.

ANALYSIS

Issue 1

A prior art reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect. *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985). Mueller teaches a method and system for creating 3D imagery of an object which may be as large as a building,

from a plurality of scanned images (FF 4). Mueller further teaches the detector may be separate from the image processor and may even be mounted on a helicopter and flown around an object (FF 7 and FF 8). AAPA teaches remotely sensing one or more characteristics of an object, generating a model, and classifying the object by comparing the sensed characteristics to stored profiles of the object (FF 2 and FF 3).

AAPA teaches that the characteristic is *frequently* the object's shape (FF 2); however, characteristic is not limited to shape; therefore, we find color is a characteristic. In addition, we find both Mueller and AAPA are directed toward detecting one or more characteristics of an object and creating a 3D model of the object – including an object that is remote from the processor.

Accordingly, we find Mueller and AAPA are from the same field of endeavor – creating a 3D model of an object based on detected characteristics – and one of ordinary skill in the art would have employed this combination to generate a 3D model from the three-dimensional object for integration into an object recognition system.

Therefore, we find Mueller and AAPA are analogous art.

Issue 2

Appellants' argument that Mueller teaches away is additionally unpersuasive. We find Appellants have not shown a person of ordinary skill in the art would have been discouraged from following a path set out in the

reference or would have been led in a divergent direction from Appellants' invention or AAPA. Appellants first focus on individual differences between the Mueller and AAPA. However, none of these individual differences teaches away from Appellants' invention. Moreover, Appellants' arguments focus on the individual differences between Mueller, AAPA, and Appellants' invention. However, the Examiner's basis for rejection is the combination of Mueller and AAPA. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 642 F. 2d 413, 425 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F. 2d 1091, 1096 (Fed. Cir. 1986).

Appellants additionally point to a teaching in Mueller regarding continuation and contends "[t]his necessarily implies that Mueller et al. is teaching that it is more preferable to bring the scanned object to the equipment in which the data will be processed" (Reply Br. 8). However, we find the gap between this teaching and Appellants' interpretation to be too large to bridge without anything but speculation. Indeed, Mueller teaches use of a data acquisition device separate from the image processor that may be attached to, for example, a helicopter to acquire data of a very large object (FF 7 and FF 8). Therefore, we find it inherent that the object is remote from the image processor.

Accordingly, we find Appellants have not shown how Mueller discourages one of ordinary skill in the art at the time of Appellants'

invention from following the path set out in the reference, or how one of ordinary skill in the art would have been led in a direction divergent from the path that was taken by Appellants. Thus, Appellants have not shown that Mueller teaches away.

CONCLUSION

Based on the findings of facts and analysis above, we conclude Appellants have not met the burden of showing the Examiner erred in finding Mueller and AAPA are analogous art and have not met the burden of showing Mueller teaches away from the present invention or its combination with AAPA. Accordingly, we conclude Appellants have not met the burden of showing the Examiner improperly combined Mueller and AAPA or otherwise erred in rejecting claims 1-2, 4, 7, 10-11, 16-20, 23-46, 52-55, and 58-84 under 35 U.S.C. § 103(a) as being obvious over Mueller and AAPA.

DECISION

The Examiner's rejection of claims 1, 2, 4, 7, 10-11, 16-20, 23-46, 52-55, and 58-84 under 35 U.S.C. § 103(a) as being obvious over Mueller and AAPA is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

rwk

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